

### Abstract

The object of the present invention is to provide an image processing technique for generating a multi-valued image with fine contours from an input image that is generated by reading, as a multi-valued image, the dotted print contents of printed matter into. An image processing apparatus of the present invention generates a contour extracted image by performing the contour extraction process for the input image, and deletes contours from the contour extracted image that satisfy a predetermined condition to generate a partial contour image. Then, it adds contours to the partial image according to the density distribution of the contour in the partial contour image, and generates a contour added image. By referring to the contour added image, it superimposes the input image and a smoothed image obtained by performing a smoothing process for the input image to generate a synthesized image. Since contours that satisfy a predetermined condition are deleted from the contour extracted image, the moire patterns included in the contour extracted image are removed. In addition, since contours are added according to the density distribution of the contour, necessary contours can be recovered.